

# MICRO-INTERNSHIP

## Yield Forecasting with Statistics

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**HARTNELL**COLLEGE

As an ongoing project with Food Origins, Inc., a team of students this summer were tasked with testing a new protocol for counting boxes of strawberries harvested, based on a new system implemented in the field by Food Origins. Students began by learning the basics of R Programming and applied the basics of R programming to a rich, yet complicated data set from Food Origins. Students then learned the mathematics behind a machine-learning-styled algorithm (details withheld) and applied this technique to the Food Origins data set. Students applied this algorithm, classified portions of the word day by type (pre-work, active



harvesting, breaks/lunches, post-work), and applied the box-counting technique during the working periods for harvesters. Additional boxes were estimated using an interpolation technique, and final box counts were compared to known box counts obtained from other sources. Box counts improved to within plus or minus 5%, over the original protocols that varied widely from person-to-person, and day-by-day.

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